

BITS, BYTES & PIXELS

LIMA 99/4A USERS GROUP



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THE 1992 CHICAGO TI INTERNATIONAL WORLD FAIRE

reported by Charles Good
Lima Ohio User Group

As usual, I thoroughly enjoyed myself at the October 30/31 Chicago faire and the Milwaukee show the next day. The Chicago and Milwaukee User Groups did their usual fine job organizing these events. Since I was the only one from the Lima area to attend, it was not possible to arrange for coverage of ALL the seminars or visit with ALL the TI personalities in preparation for this newsletter article. In this article I will describe some of the major features of the weekend that were of particular interest to me. I make no claim here to list all the vendors nor to describe all the software and hardware for sale. What follows is in no particular order.

--THE NO SHOWS: As usual, some notables who were expected and who had exhibit room tables and scheduled seminars didn't make it. Barry Traver canceled out at the last moment (Thursday night) because his wife was ill. I took his seminar time slot and demonstrated the as yet unreleased 40 column version of the Funnelweb v5 text editor. Gary Bowser (O.P.A.) didn't show up either. He usually arrives at TI shows with little merchandise to sell but is quite willing to take your check for future delivery. Based on past experience very few TI users are now willing to purchase stuff from Gary on this basis.

--PRICES FOR USED EQUIPMENT: It is common at TI shows to get expansion systems without RS232 cards for about \$100 (PE box, TI controller, SSSD drive, 32K). Purchasing a system at this price is excellent opportunity to INTRODUCE NEW PEOPLE who have recently acquired a free or almost free console to the full spectrum of available TI software. I purchased such a system for a new member of the Lima User Group. Where else can you introduce someone to the joys of home computing for around \$100. I also purchased several Extended Basic modules with books for \$10 each, a SSSD stand alone drive with power supply and cable for \$5 (a great price!), and for my kids' TI system a 13 inch composite color monitor for \$85.

--CRYSTAL SOFTWARE (MIKE MAKSIMIK): Mike did not have v3 of Midi Master finished. This is the software that lets you play an electronic keyboard and directly store this music on a TI disk. Mike did have a very nice looking PC tower holding his Geneve and all his TI cards. He took the inside cage of his PE box along with several floppy and hard drives and put them all into this tower. He plans to add a TI cartridge slot. A really nice looking and easily portable package! Mike is also working on a way to make tape backups of hard drives that use the Myarc HFDC.

--NOTUNG SOFTWARE (KEN GILLILAND): The official release of Ken's "DISK OF THE ANCIENT ONES" was at the Chicago show. This 4 SSSD set is another of Ken's unique combination of artwork, scholarship, and fun. The theme is ancient Egypt. Several DV80 viewable on screen text files describe aspects of ancient Egyptian life. There are lots of TI Artist fonts, pictures, and instances. In the maze game based on the Labyrinth of Minos you have to make sure the Minotaur doesn't get you. You can also translate any written text into hieroglyphs with the included Hieroglyph Translator. Text and hieroglyphs are displayed on screen and can be printed. I bought it. \$15.

Ken also had available an ADDENDUM TO TI CASINO that has additional joke files and an additional game. Just copy the files on the addendum disk onto your backup DSSD TI Casino disk. I bought this too. \$5. Some say that there are two kinds of jokes, clean jokes and funny jokes. Ken's new jokes are grouped according to sexiness. Each file slightly worse (or better) than the previous.

--ASGARD (CHRIS BOBBITT): Chris demonstrated "FIRST DRAFT/FINAL VERSION", the new \$40 TI Writer editor/formatter enhancement by Art Gibson. This is a fancy version of Arts already fancy Newsletter editor/printer software. It's really quite nice. The Asgard version is keyed to Spell It, and allows you to spell check your document, or any word in the document, while the document is being typed. If you already own Spell It you get \$10 off the price of "First Draft/Final Version". (Warning...The current v1.1 of "Spell It" apparently doesn't work on systems that have an AVPC 80 column card. The earlier v1.05 Spell It does work with an AVPC, but you can't put the dictionary on a Horizon Ramdisk with v1.05.).

ASGARD MEMORY SYSTEM: These 128K PE Box cards were available. I don't think any were sold. There is no software yet that can take advantage of this extra memory. Asgard is trying to get this device into the hands of software developers so they will rewrite their software to take advantage of the additional memory. (For example, at the Friday evening reception Chris approached Burce Harrison and said "I'll let you have one at a very good price.") During Chris' very polished seminar he said that the AMS bank switches in 4K blocks, "The way TI wanted memory to bank switch." This was how it was done on the 99/8. According to Chris, for one of the enhanced extended basics written for use on a gram device it would only take about 15-20 minutes of programming time and about a dozen lines of assembly code to allow the software to access the extra memory. Asgard plans to release a 1-to-several MEG upgrade sometime in 1993. Hopefully by then there will be some useful software that can use all this memory. It looks like there is lots of potential here.

NEXT PAGE

--BUD MILLS SERVICES (BUD MILLS and DON O'NEIL): There were empty SCSI CARD boxes with preprinted fancy labels, and there were unbuilt circuit boards sitting in Bud Mills' bedroom. However the SCSI card is not yet ready for release. "The DSR hasn't been finished," we were told. Many TI users I have talked to over the past several months are anxiously awaiting the release of the SCSI card so they can add a hard drive to their systems. (New Myarc HFDC cards are still available from TM Direct Marketing, but they are expensive, difficult to back up, and have a bad history of reliability problems. But, see below.)

HORIZON 4000 cards ARE available. RAMBO and a socket for an optional 32K memory expansion chip are standard. Bud is using 512K chips (\$110 each) with these. 128K or 32K chips can also be used. A single layer of socketed 512K chips will give you 8Meg, although "only" 4 Meg can be used as a ramdisk. The rest has to be RAMBO memory. Now if only there was some useful software that can use RAMBO.

TI EMULATOR-DN-A-PC: The basic premise of this project is that with TI hardware aging and the common availability of MS-DOS systems, it would be nice to be able to run your favorite TI software on a PC. This software makes the PC simulate the 9900 and other TI chips. The PC thinks it is a 99/4A.

It really was neat seeing a full color TI title screen on a 386 PC. Mike Wright put the all software emulation through its paces. It emulates extended basic and can play some TI cartridge games whose source code is known. In its current state it will not accept disk input and it runs about 65% of the speed of an actual 99/4A. When disk input is available, apparently all you will have to do is use PC TRANSFER to convert ASCII listings of XB code or assembly source code to PC format. The emulator can then use these ASCII files to make the TI software work on a PC that emulates a TI. The emulation software can be purchased as is for about \$45, but improvements are needed such as speech output and disk IO.

In conversation later Saturday evening, Mike Wright sounded pessimistic about the prospects for future development of the TI emulator. Mike wants 1000 people to send him \$1 as an indication of a potential market. Several including myself sent Mike checks for much more than \$1, but this isn't what Mike wants. He wants 1000 people, not \$1000. So far his emulator has generated responses from less than 200 people, and Mike didn't think he generated lots more interest with his presentation. We will have to wait and see.

3-D VIEWING ON A TI: Somebody, I think it was Barry Boone, had a 3-D image drawn with YAPP displayed on a monitor set to interlace mode. You need to put on a set of goggles connected by wire to a "Stereo Driver" that is connected to the monitor. The depth of the YAPP image was startling! The required "Stereo Driver" is not specific to the TI. You can use it with a VCR and rent special stereo video tapes. The driver is "only" \$2700 from 3D TV, Box Q, San Rafael CA 94913. This company will also sell you a stereo camcorder for \$10000.

CC40 PROGRAMMING ENHANCEMENTS: In his hotel room Lee Bendick showed me what he and Barry Boone had done for the CC40 community. All CC40 cartridges (including the rare modules such as Editor/Assembler, Demonstration, Memo Processor II, and a cartridge designed for use by optometrists) have been dumped to disk. These can be loaded back into a battery backed cartirdge resembling a TI supercart and run on any CC40. Lee has the capability to burn eprons and manufacture clone cartridges from these disk files. Now everybody who wants one can get a CC40 EA module. In addition, the code of these cartridge can be speeded up. Original CC40 cartridges used slow EPROMS, and all the TI cartridge software had built in delay loops to compensate for the slow speed of the original EPROMS. It is now possible to remove the delay loops from the disk files of CC40 cartridges, burn these files into modern fast EPROMS, and speed up most cartridge CC40 software by 20%. This is what Micropendium was talking about a couple of months ago.

DISCOVERY OF A (VERY) LONG LOST TREASURE: While wandering around the exhibit area with a group of us, Lee Bendick (yes, him again) spotted something he didn't recognize at the bottom of a pile of stuff offered by Competition Computer. It was a fat three ring binder, similar in size to the TI Writer binder. It was shrink wrapped in plastic and its title was unfamiliar to anyone in the group. Lee bought the thing for \$20. Later that night I and Mike Wright were in Lee's hotel room when Lee brought this thing out and said, "I wonder what this is."

What Lee purchased was TI's official 9900 assembly language tutorial package, equivalent to a "Teach Yourself 9900 Assembly Language" (not its actual title). It was published in 1976 by the TI Learning Center, and is designed for hand's on use with the 990 computer (the "university board"). Inside the plastic shrink wrap were 15 audio tapes which talk the student through about 200 pages of charts and diagrams. Enquiries are now being made concerning whether this can still be purchased from TI. Lee, Mike Wright, and I hope to somehow make this whole package available to the TI community.

Ever since the release of the 99/4A EA module and publication of this module's documentation TI users have been asking for a good assembly language tutorial. An official TI tutorial was available all the time! We just didn't know about it, largely due to its early publication date and the fact that it was not published by TI's consumer products division. Who knows what other treasures will yet magically appear out of the woodwork.

****DONE****

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## #7 MODULATING ACADEMIC LIFE

The TI, Class, in case you haven't been conscious the previous six classes, is unique in the computer world. Not only were there hexbuses and something like wafer tape available or almost available for awhile in its erratic history. No, Mr. Shakespeare, not erotic! I said erratic.

Anyway, Class, not only were there exotic forms of connection - No, Mr. Shakespeare, I said "exotic!" - and storage, but the variety of usable storage forms still exceeds anything out there for any computer.

In addition to hard drives, both size floppies, a variety of RAM disks and supercards and gram devices, and specific modules (and things that plug into or are soldered onto all kinds of places), the TI also uses ordinary cassette tape as storage/retrieval.

Now this may seem a surfeit of options, but there are Tiers out there who are using each and every one of these items on a daily basis, and their perception of our wonderful machine is viewed through these devices.

Because you are all taking this course to find out how best to use the TI as an educational tool for yourself, your friends, your family, your new TI converts, your own classrooms, we will explore ways in this session to modulate your TI to suit your needs. As most of you here are parents, grandparents, or classroom teachers and your concern is with the 4A as learning tool, let's first review your notes. You'll find that newsletters, user group friends, TIGERCUB, local fairs, and MICROpendium are your immediate best sources for what is educationally available for the TI. The magazine carries the classifieds, as well as ads for ASGARD, COMPRODINE, TEXCOMP and other agents for educational materials.

If you look at my greying temples you will probably understand that I have been at this computer game for a bit.

No! Thank you, Ms. Bronte. I wondered if anyone got the humor of that.

Well, being around a bit - particularly teaching these kinds of courses to teachers - I have learned that the old is not necessarily the worst, even in the whizzly world of electronics.

By a show of hands, how many of you have more than one console? Okay, that's most of you. How many have more than one P-Box? Ah, so there are many consoles not being used. How about tape recorders? So you all still have your tape recorders. Good.

Write today (and send \$10) for Mickey Schmitt's (196 Broadway Ave., Lower Burrell PA 15068) fantastic TI cassette book, GETTING THE MOST FROM YOUR CASSETTE SYSTEM, and another \$5 to Jim Cox (905 Edgebrook Dr., Boylston MA 01505) for

MUNCH's incredible disk of the ultimate in cassette programming (Disk 89, which also includes all of the cassette utility programs in the book, as well as others from all over the world). It has loads of samples, too. Did you know, for example, that you can use your cassette to actually run dumped modules like "Yahtzee?" Or that you can program your cassettes to locate at high speed from a cassette menu? And then run the programs automatically, whether XB or EA? Those programs are all on MUNCH Disk 89. And with cassette programs loaded and running there is no P-Box fan noise, because there is no P-Box!

I say all this, Class, because in looking through my notes after last session's discussion of textware, I uncovered a box containing cassettes. It was marked "Education for Home and Classroom." It should have been marked "Treasures."

So many of my teachers from the past couple years have told me that they are still using cassettes in their classrooms (mostly elementary, I might add), that I asked if they'd bring in a few for demoing. That's when I learned about all these new ways of cassetting. But, more importantly, I had a chance to renew my acquaintance with some of the best non-cartridge, non-disk learning material available. A lot of these great programs have been translated to disk, however, and are still in classroom and home use in that form, too. Most of these disks can probably be gotten from Jim Peterson of TIGERCUB (156 Collingwood Ave., Columbus OH 43213).

In this little box of treasures, though, were some extraordinary things I'd like to share with you. To begin with, there were some KIDWARE tapes. All KIDWARE tapes are superb. I pulled out "Lemonade" and played it. This is a thinking activity for running a lemonade stand. All kinds of decisions must be made by the players. I've played versions for other computers that have more toots, but this is more realistic and intelligent. I'd forgotten how great the KIDWARE educational tapes were. They still are. Collect all the KIDWARE programs you can.

That goes for a couple other companies, too, who made educational tapes specifically for the TI. Two of the biggest and best were SUNGEM and INTELLSTAR.

The former had the most extraordinary setups. In almost all their games, SUNGEM allowed you to use your console to the maximum. The opening menu asked if you were using BASIC or XB or Speech Synthesizer or TEIL. It would build its high-level sound around your personal configuration. They had some monster tapes that haven't been equalled even today (for tapes, that is). Things like "Searcher of the Solar System," which is still one of the best ways to actively involve a learner in a challenging, creative, informative way about the planets. I know a lot of teachers who are still using their "Telling Time" program which not only shows the hands on a clock but speak the exact time in a series of build-upon activities. Their "Math Challenge" graphically challenged the students in addition, subtraction, multiplication, and division. There were other math and spelling and social studies games, too. Quite a company for

NEXT PAGE

educators and parents.

And, of course, kids.

INTELLESTAR's approach was quite different. First, they had science tapes, which nobody else had. These included the classic "CELLS: the Building Blocks of Life," which is one of the greatest things ever done on tape. Actually, it is on three tapes. Also in their Life Science series was "Inside Frankie Stein," an interactive trip through the human body, and "Heart Attack," where you, as doctor or nurse, must monitor a patient to prevent an attack. Other science and math activities included "Fireball" and "Vyger" (their spelling). "States Alive" was their social studies contribution.

But their masterpiece is "E.T." - "The Everything Teacher." This 6-tape educational gem should be in every teacher's classroom, in every home where there are children. Basically, there is a file editor. This creates the master data base for all the programs that make up this classroom environment. The four one/two player or team games include "TV Sweepstakes," which is a game show that uses the created files. It's a funny and fast-paced and graphically well-designed show that requires quick thinking on the part of the participants. "Baseball" is just that. Graphically the "batter's team" hits and scores as in regular baseball, but only by answering the data-based questions. The same or different questions may be used for "Space Patrol - Lost!" and "Last Jellybean on Earth." All four of these "quizzes" are lots of fun and ingeniously created.

The "Everything Teacher" guides you easily through their data base to create, literally, everything you need for the children (or adults) you want to have play these games. Score is kept in each game, too. So, conceivably, you could have some math, language, science, social studies, and whatever files for all occasions.

SUNGEM can pretty well operate without its accompanying text materials; INTELLESTAR's programs need the directions, KIDWARE directions are right on the screen menu.

But, can you imagine this kind of stuff out there on tape!

There were a couple companies that made educational tape programs for multiple computers, when those others had tapes, even though TI was the only one that worked well. Anyway, a couple of these educational companies made excellent TI stuff.

SCHOLASTIC put out three things: "Electronic Party," a colorful screen occasion card maker; "Square Pairs," the very best concentration-style game ever made for our computer; and "Turtle Tracks," an intelligent LOGO-like program that has some extra special items I wish were included in regular LOGO (such as their unique Picture Codes that let you draw in a pattern ).

"Tiny LOGO," done on tape just for the TI, by the way, is another superb LOGO-like program that runs in BASIC, rather than TR, as in "Turtle Tracks."

SUNBURST produced two programs, at least, for the TI. The only one I own and have used is "Arrow Dynamics," which like most of the others I've mentioned, really take tape

instruction and activity to its limits. The object is simply to move an arrow across a playing grid from one goal to another. However, the movements (one square at a time) must be stated in a LOGO-like structure. Then the obstacles are added (such as 90-degree deflection mirrors) and the fun begins! This is a stupendous thinking game. I only wish I knew where I could get hold of the other SUNBURST games, if they match up to this one at all.

Speaking of LOGO, which we will discuss in the last session next time in greater detail, there was also a language for teachers called ASPIC created specifically for the TI and used with tape recorders back in the old days. The BEST OF 99er book, mentioned last time, contains this entire language in its educational section. Worth exploring if you only have the basic system, even without XB.

But dust off those tape recorders and look in your friend's or your group's library or at fairs or maybe even in tape-filled shoeboxes at the back of your closet to gather up and use these and hundreds of other exceptional educational tape programs. If you find them on disk, transfer them to tape using the automatic disk to tape transfer program from the MUNCH disk. And get more than one computer going. Or dedicate one just to the significant children in your life at home or school.

Believe me, your basic console with a tape recorder, coupled with an appropriate selection of educational tapes and cartridges, can provide enough educational material for anyone's childhood. And then some. And more than any other computer on the market today.

Oops! I almost forgot the two tapes that are in almost everybody's library: OLDIES BUT GOODIES I & II put out by TI. They contain some of the very best educational taped software in existence; things like Hammurabi, Hidden Pairs, Tictactoe, 3-D Tictactoe, Number Scramble, Word Scramble, Word Safari, Factor Foe, Peg Jump, and so on. Incomparable classics that the new generation of TI learners have probably not experienced, even though some may be old hat to you. Dig them out.

Matter of fact, even some of those books we mentioned from TEXCOMP last time can come with tapes, in case typing in those programs from the texts is a problem. I think ASGAR (P.O.Box 10306 - free catalog), which is still making cartridges, including an educational one for pre-school and primary children, still sells tapes and also educational materials.

So much for tapes, Class.

Last time I asked you to bring in all the educational cartridges you have at home or school for sharing and show and tell.

Cartridges are the best educational tool for any computer. The kids of any age can pop in the carts, turn on the computers and monitors, and run the stuff by themselves until bedtime. Though the modules were made by many different companies, including TI, I don't believe any other educational computer tool truly equals the ease of operation, the direct addressing of the desired skills, the positive reinforcement of successes (with colorful animation and music

and loads of other toots and whistles and golden goodies unique to the 4A), and the understanding of the developmental level of the learner and the positive need for an entertainingly high motivational structure.

Anyway, Class, the TI cartridges still available in all the places we've been mentioning all semester long - look to your notes! - include excellent card and board strategy games like BLACKJACK and CHESS and OTHELLO, which no one can deny are skill building, thinking activities. They also have the logic problems which enhance map skills (and foresight) such as A-MAZE-ING and HUNT THE WUMPUS and ZERO ZAP. Standard boxed games like YANTZEE and CONNECT FOUR surely are strategy learning tools. So, too, would be the Adams' ADVENTURE INTERNATIONAL SERIES which is made for interactive play only on computers and demand high-level reading comprehension skills and long attention spans to even begin to play them properly. Cartridges like TI WRITER and MUSIC MAKER are definitely educational tools, also.

Though nobody could deny the efficacy of these and many others as learning tools, they were not specifically designed as educational cartridges.

I want to take a few moments to put one list of some of the educationally-designed cartridges on the overhead here.

This is just a partial listing, of course, and it would not include the fantastic modular software that was created but never released in module form. Most of those items are available on disk, many require a GRAM device or a GENEVE to operate. Nor am I including PLATO, TI's ultimate 180-disk courseware learning system for learners from primary through adult, including GED exam preparation.

No. What I'm showing is mostly the stand-alone education-specific cartridges I found available at the last computer fair I went to in Boston a few weeks ago, as they probably are available from all those other resources we listed this semester.

The ones with an asterisk use very sophisticated speech that still is not found in educational programs for other computers.

EARLY LEARNING FUN, BEGINNING GRAMMAR, NUMBER MAGIC, VIDEO GRAPHS, EARLY READING\*, ADDITION & SUBTRACTION I/II\*, MULTIPLICATION I/II\*, READING FUN\*, READING (ON, ROUNDUP, RALLY, FLIGHT, etc.)\*, SCHOLASTIC SPELLING 1-6\*, DIVISION I/II\*, TOUCH TYPING TUTOR, COMPUTER MATH GAMES I-III, MILLIKEN MATH, ALIEN ADDITION, MINUS MISSION, ALLIGATOR MIX, METEOR MULTIPLICATION, DEMOLITION DIVISION, DRAGON MIX, COMPUTER MATH GAMES 1-6, NUMERATION I/II, HONEYHUNT\*, MICROSURGEON\*, TERRY TURTLE'S ADVENTURE\*, FACEMAKER, HANGMAN, STORY MACHINE\*, VIDEO GRAPHS and on and on and on and on.

Time's up! Homework this week is take, use (preferably with a young learner), and evaluate three of these modules. And be prepared to demonstrate them for us at the next session, which will be our last before the final.

No, Mr. Shakespeare, we will not be discussing things erotic next time. But we will be discussing a pretty hot topic: the very sexy LOGO II.

**\*\*DONE\*\***

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## BRAND NEW UNUSED 99/4A'S ARE STILL AVAILABLE

Ramcharged Computer, a TI dealer in Brookpark Ohio has obtained a supply of brand new, never used, 99/4A computers in their original boxes complete with documentation RF modulator and power supply. They are asking \$45 each for these units. Call Ron Markus toll free at 800-699-1214 for more details.

**\*\*DONE\*\***

## "PHONE NUMBER TRANSLATOR"

Software for the 99/4A, CC40, and TI74 that demonstrates the use of "PRINT #0"

by Charles Good  
Lima Ohio User Group

The BASIC software listing below is interesting for three reasons. 1-The program does something useful. 2-An unusual programming technique, PRINT #0, is used. 3-The software is a good example of how easy it is to modify CC40/TI74 BASIC programs so they will run on the 99/4A, and visa versa.

As explained in the REM statements, TELEPHONE NUMBER TRANSLATOR converts a seven digit phone number into its all letter equivalents, such as TI-CARES. There are 2187 possible letter combinations for any 7 digit phone number, and they are all displayed on screen or optionally sent to a printer or a disk file. 99/4A users will probably find the easiest way to read the output of this program is to send the output to a disk file by specifying "DSK1.FILENAME" at the DEVICE NAME OR NUMBER prompt. Then load the resulting DV80 file into any word processor and scan the file on screen. Perhaps a readily recognizable group or partial group of letters will make it easier to remember a particular number.

The usual way to direct the output of a BASIC program optionally to either the screen or to a printer is to have a branch point in the program. Screen output branches to a group of program lines that PRINT data to the screen. Selecting printer output branches to a different group of program lines that PRINT #1 to a file OPENed as "PIO", some other printer name, or a hex bus device number. This program uses only one set of code lines to direct output to both the screen and printer. This saves memory. PRINT lines say "PRINT #X". When the program is first RUN, all numeric variables including X are set to zero. Device zero is the screen, so unless the value of X is changed, every time a PRINT #X is encountered the computer will "print" to file #0 which is the screen. If optional printer output is selected, lines 180 and 190 set X

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10 REM TELEPHONE NUMBER TRANSLATOR - This version for CC40 and TI-74.
20 REM Converts a 7 digit phone number into all possible letter equivalents
30 REM such as 842-2737 into TI-CARES.
40 REM To modify for TI BASIC running on a 99/4A do the following:
50 REM 1-Remove ":PAUSE X" (X is a number) found at the end of most PRINT lines.
60 REM 2- Change ";" to ":" in lines 130 and 170.
70 REM 3- Change "#X," to "#X:" in lines 190 420 430 440 450 460 470 480 and 500
80 REM 4- Change lines 240 and 510 from CALL KEY(K,S) to CALL KEY(0,K,S).
85 REM 5- Change "#1," to "#1:" in lines 286 287 and 289
90 REM Modified in August 1992 by Charles Good for CC40 and TI74.
100 REM Original 99/4A program from "Zappers, having fun programming 23 games
110 REM for TI99/4A" by Henry Mullish & Don Kruger, 1984, Simon & Schuster
120 PRINT "      Ring -- Ring -- Ring":PAUSE 2
130 INPUT "Use output device? Y/N ";P$
140 IF P$="Y" THEN 170
150 IF P$="N" THEN 170
160 GOTO 200
170 INPUT "Device name or number? ";DN$
180 X=1
190 OPEN #X,DN$,OUTPUT
200 PRINT "Using no dashes, type the seven":PAUSE 1
210 PRINT "digits or letters of a phone #"
220 CHAR$="000111ABCDEFGHIJKLMNPRSTUVWXY"
230 FOR I=1 TO 7
240 CALL KEY(I,S)
250 IF S<1 THEN 240
260 IF (K<48)+(K>57)*(K<65)+(K>89) THEN 240
270 IF K=ASC("0") THEN 240
280 PRINT CHR$(K);
282 IF X=0 THEN 290
284 IF I<>1 THEN 287
286 PRINT #1,"For telephone number ";
287 PRINT #1,CHR$(K);
288 IF I<>7 THEN 290
289 PRINT #1,""
290 IF K<58 THEN 310
300 K=INT((POS(CHAR$,CHR$(K))-1)/3)+49
310 NUMB(I)=(K-48)*3
320 NEXT I
330 PRINT
340 PRINT "Hold any key for temporary STOP":PAUSE 1
350 FOR A=1 TO 3
360 FOR B=1 TO 3
370 FOR C=1 TO 3
380 FOR D=1 TO 3
390 FOR E=1 TO 3
400 FOR F=1 TO 3
410 FOR G=1 TO 3
420 PRINT #X,SEG$(CHAR$,NUMB(1)+A,1);
430 PRINT #X,SEG$(CHAR$,NUMB(2)+B,1);
440 PRINT #X,SEG$(CHAR$,NUMB(3)+C,1);
450 PRINT #X,SEG$(CHAR$,NUMB(4)+D,1);
460 PRINT #X,SEG$(CHAR$,NUMB(5)+E,1);
470 PRINT #X,SEG$(CHAR$,NUMB(6)+F,1);
480 PRINT #X,SEG$(CHAR$,NUMB(7)+G,1);
490 N=N+1
500 PRINT #X,N;"of 2187":PAUSE 1
510 CALL KEY(K,S)
520 IF S=-1 THEN 510
530 NEXT G
540 NEXT F
550 NEXT E
560 NEXT D
570 NEXT C
580 NEXT B
590 NEXT A
600 IF P$="Y" THEN CLOSE #1
610 IF P$="N" THEN CLOSE #1
620 END

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## Bits, Bytes & Pixels

equal to 1 and OPEN file #1 to the designated printer name. Later, every time the program reaches a line that says PRINT #X, output is directed to the printer (file #1) rather than to the screen (file #0).

In previous newsletter articles I have noted that TI BASIC and Extended BASIC for the 99/4A is very similar to the BASIC's of the CC40 and TI74. TELEPHONE NUMBER TRANSLATOR is an excellent example of the similarities. I took a published 99/4A program, modified it for use with my TI74, and added some new features including printer output. In lines 40-80 I have included in REM statements detailed instructions for modifying my CC40/TI74 program so it will run on an unenhanced 99/4A console only TI BASIC system. The required modifications are VERY minor. This illustrates how easy it is to convert BASIC software that doesn't use color, sound, speech, or user defined graphics back and forth between the 99/4A the CC40 and TI74.

The CC40/TI74 version is listed here. A version for the 99/4A can be downloaded as software with the electronic edition of the November 1992 Lima newsletter posted on GENIE and on the C.O.N.N.I Newsletter Article Clearing House BBS.

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### THE ORPHANS' SURVIVAL HANDBOOK (MERE MORTAL USERS' EDITION)

Several years ago a TI user took a large collection of newsletters, extracted all the articles dealing with hardware, projects, and published these articles in book form under the title "Orphans Survival Handbook". This book is a useful reference for hardware hackers. The majority of TI owners can't benefit directly from this book because they aren't handy with a soldering iron and thus don't do extensive hardware modifications. For this vast "silent majority" of just plain ordinary computer users among our members, the Lima Ohin User Group has created a "Mere Mortal User" collection of old newsletter articles.

I (Charles Good) was given an extensive collection of newsletters published by many user groups between 1983 and 1989. They are full hands on reviews of TI products, some of which were released many years ago. These review articles from other user groups have been indexed and are now available to any member of the Lima User Group for the cost of copy and postage. Most of what you see listed below are product reviews, selected with an audience of "mere mortal users" in mind. Articles published in the Lima newsletter, Type in software, and tutorials are not included in these material. I have not included only a few articles about hardware modifications. (DV80 disk files and an index of past Lima newsletter articles are available from us. If published type in software is really interesting someone will have already typed it in and the software will probably already be in the Lima group's software library. We have tutorials on TI-Writer, TI-Base, Multiplan, Extended Basic, and assembly language in our disk and video tape libraries.)

Members can request the 1983-1989 newsletter pages from other groups that have articles on the following topics. Upon receipt of the information you can repay us for the cost of copying (currently \$0.03 per page) plus postage.

#### SOFTWARE REVIEWS:

Space Bandit  
Star Trek  
Moonsweeper  
Moon Mine  
Zork II hints  
Meteor Belt  
Mind Challengers  
Hunt the Wumpus  
Hangman  
Designer Labels (Texaments)  
Amazing  
Zero Zap  
Championship Baseball  
Football  
Jifty Flyer (Roger Merritt)  
Indoor Soccer  
Mechatronic Extended Basic II+  
Neatlist  
Myarc Disk Manager III  
1000 Words (Norman Rokke)  
C99  
SST Compiler and Pre SST  
Joy Paint 99 and Joy Paint's Pal  
TI/IBM Connection (CorComp)  
Graphx  
P-Term  
Mass Transfer  
X-Basher  
TI Base  
Congo Bongo  
Fathom  
Basic Compiler v1.1  
First Base  
Fontwriter  
Peripheral Diagnostic Module (CorComp)  
The Printer's Apprentice  
Business Graphics 99  
Quick Copier II (Quality Software)  
List of CALL LOADs and CALL PEEKs  
Night Mission  
Disk Master I  
Household Budget Management  
Picasso  
Mash  
Slymoids  
BigFoot  
Face Maker  
PC Transfer  
Story Machine  
Jambreaker 2  
Burger Time

NEXT PAGE

Reading Rally (Scott Foresman)  
 Jump Boot (for the beneve)  
 Beyond Video Chess  
 Jiffy Flyer  
 Pre Scan It  
 DEADLINE solution (Infocom)  
 PR Base  
 Wheel of Fortune  
 Print 'N Paint  
 PacMan, Pole Position)  
 Computer War  
 River Rescue  
 Submarine Command  
 Mail Call  
 Spad XIII  
 The Brain  
 Macflix  
 Certificate 99  
 9900 Basic ("Almost a compiler")  
 Popeye  
 Fast Term  
 Sketchmate (for Super Sketch)  
 Disk of Dinosaures  
 Lost Dutchman's Mine  
 Starship Pegasus  
 The Printers Apprentice  
 EZ Keys (Asgard)  
 XRES (Quality 99 Software)  
 XB Bug  
 XB Basher  
 Extended Graphics Package  
 Stamp Manager (Asgard)  
 Homework Helper (Navarone)  
 Personal Record Keeping  
 Computer War  
 Weight Control & Nutrition module  
 Graphics Expander  
 How to put PLATO software in D5DD disks  
 Night Mission  
 Word Writer cartridge  
 Paint and Print  
 4A Talk  
 Genealogy Workshop  
 Mass Transfer  
 P-Term 99  
 TE 1200  
 Home Control 99  
 High Gravity  
 Enhanced Display Package  
 XB Detective  
 QS Quick Copier II  
 Print It  
 QS Converter (DVBO to XB)  
 Advanced Diagnostics  
 DM1000  
 CAT LIB  
 Super Cat (disk cataloger)

Browse (JP Hoddie)  
 TI Tax  
 Zork III  
 BA Writer  
 99 Home Century  
 Snap Calc  
 Micro Pinball  
 Sound Track Trolly  
 QS Quick Cat (disk cataloger)  
 Story Machine  
 Early Logo Learning Fun  
 Early Learning Fun  
 Dragon Mix  
 MENU v6.8  
 TI Runner  
 Touch Typing Tutor  
 Personal Real Estate  
 Mass Copy II  
 Mister T  
 9640 Fortran  
 Arrow Dynamics  
 QS Solitaire  
 Microsurgeon  
 Archiver v3.02  
 Jungle Hunt  
 Form Shop  
 Face Maker  
 Early Learning Fun  
 Zork II (Infocom)  
 Mission Impossible  
 Dragon Slayer Spelling Checker  
 QZ Adventure (Steve Davis)  
 Zork I  
 Hitchikers Guide (Infocom)  
 Beanstalk Adventure  
 Parsec  
 Super Demon Attack  
 Buck Rogers  
 Defender  
 TI Invaders  
 Protector II  
 Floppy Copy  
 X10 Powerhouse  
 Cosmic Drift  
 Rabbit Trails  
 Hen House  
 Business Graphics 99  
 Super Extended Basic (Triton)  
 SST Basic Compiler, Pre SST  
 Jotto  
 Tiny Logo  
 DiskAid  
 Nuts and Bolts (Tigercub)  
 Star Trek  
 Checkbook and Budget Manager (JET)  
 Companion  
 Dvector (data base by JHB software)  
 Master Disk File (Extended Software)

Desktop Publisher (Databiotics)  
 Zodiac Wheel of Fortune  
 Picture It  
 Frogger  
 Telco  
 Recipe Writer  
 Turbo Pascal  
 Tass 2001  
 Popeye  
 DSKU (Birdwell's Disk Utilities)  
 Touch Typing Tutor  
 Print Wizard  
 Jungle Hunt  
 Calendar Maker 99  
 Witness (Infocom)  
 1000 Words  
 TI Keys  
 Infidel (Infocom)  
 TI 99-opoly  
 Mechatronic (Apesoft) Extended Basic  
 Fast Term  
 Techie (BBS software)  
 STAR (XB enhancement)  
 Mini Writer II and III  
 Blackjack and Poker  
 Deadline (Infocom)  
 Video Chess  
 Yahtzee  
 Othello  
 Connect Four  
 Super Cataloger  
 Nuts & Bolts 2  
 Shamus map  
 Savage Island part 1  
 LOGO II  
 Schedule Manager (Asgard)1  
 TK Writer  
 Spot Shot  
 TexTiger II (word processor)  
 Floppy Copy  
 Auto Type III (word processor)  
 Barrage  
 Bit Mac  
 Republic software's Utility 1  
 SMASH  
 Flight Simulator (Datasoft)  
 Tennis  
 Cargo Run  
 QS Chart Maker  
 Basic Compiler v1.1 (Ryte Data)  
 Mean Streets  
 Scholastic Spelling Level 6  
 Jotto  
 Tiny Logo  
 The Attack  
 Arcturus  
 Space Station Pheta

Early 1984 TI press release about Walt Disney, Sierra-On-Line, and Imagic software, some of which was never released.

Article on whats legal and whats not with software copyright

TL file to print IBM graphics (ASCII <127)

Personal Data Management (JHB Software)

Multi Disk Informer (J K & H Software)

GKXB (Gram Kracker enhanced extended basic)

GEE (a graphics programming language)

BEAXS (Bagnaresi EA "module" that boots from XB)

Return To Pirates Island (almost complete solution)

Short descriptions of all software by Romex & Funware

Articles by Ann Dhein on adding Graphics to TI Writer text files

Reviews by Bill Gaskill of various Data Base software packages

Atari game modules Centipede, Defender, DigDug, Donkey Kong

Articles by Ann Dhein about graphics software

Reviews by John E. Taylor (JET) of the following TI cartridges: Addition And Subtraction 1 2 and 3, Alien Addition, Minus Mission, Beginning Grammar, Decimals, Division 1, Early Learning Fun, Early LOGO Learning Fun, Early Reading, Face Maker, Fractions, Frog Jump, Multiplication 1, Number Magic, Picture Parts, Pyramid Puzzler, Reading Adventures Cheers Flight Fun Rainbows and Trail, Scholastic Spelling Levels 3 4 5 and 6, Star Maze, Story Machine, Touch Typing Tutor, Adventure module, Alpiner, A-Maz-Ing, Blackjack & Poker, Blasto, Car Wars, Donkey Kong, Football, Hangman, Hunt The Wumpus, Hustle, Indoor Soccer, Microsurgeon, Munchman, Othello, Pac Man, Parsec, Pole Position, Star Trek, TI Invaders, Tombstone City, Tunnels of Doom, Video Chess, Yahtzee, Home Financial Decisions, Household Budget Management, MULTIPLAN, Personal Real Estate, Personal Record Keeping, Personal Report Generator, Security Analysis, Statistics, Tax/Investment Record Keeping, TI Writer, Editor/Assembler, Extended Basic, Mini Memory, LOGO II, Disk Manager II, TE II.

Scott Adams Adventures Return to Pirate's Island, Pirate Adventure, Adventureland

## HARDWARE REVIEWS and INFORMATION:

Hamsoft module for decoding ham radio signals

Myarc Hard and Floppy Disk Controller (HFDC)

Foundation 128K/32K card

Myarc 128K and 512K cards

Gemini 10X printer

Star NX10 printer

J.P. Hoddie eprom RDS for Horizon Ramdisk

List of TI module GROM part numbers

CorComp 512K card

How to make floppy disks

Amdak 13 inch color monitor

Prometheus ProModem 1200

Mechatronic Gram Karte

Tandy DMP130 printer

Asgard light pen

Centronics GLP printer

Epson LX80 printer

Install XB in the console

Myarc floppy disk controller

Gram Kracker (reviews & GROM modifications)

Horizon Ramdisk

CorComp disk controller & disk manager

Panasonic KXP-1091 printer

Oscar databar reader

WIDGET multiple cartridge holder

Microstuffer in line printer buffer

Super Space (battery backed supercart)

S6-10 printer

Volkswodem 12

Avatex modems

Triple Tech card

Videoflex

Gramulator

Star NX-1000 printer

Diagrams and article disassembly of PE box.

Rave 105 keyboard

Rave ramdisk

VCR to 99/4A cable

Speech Synthesizer in the console diagram

WYCO trackball

Morning Star 128K ram card

Mensha hard disk system

Tandy DMP-105 printer

Sup'R Buffer in line printer buffer

CorComp side car 512K ramdisk

CorComp Micro Expansion System

Brother EP-44 Typewriter/Printer

TI's P-code card

RF Modulator fine tuning

Atari numeric keypad for the 99/4A

Gemini 10X printer

GROM part list and prices

Grand Ram

32K single chip expansion in the console

Dijit RGB conversion

Super Sketch

CC40

Star Powertype printer

Prostick II joystick

KBM interface for IBM keyboard

Mechatronics mouse

Grom Emulator (never released TI product)

99/8 computer

M6 Proms for the CorComp disk Controller

Myarc Floppy disk controller

Gram Karte

Cannon PW1080A printer

## BOOK REVIEWS:

Compute's Guide to Extended Basic Home applications on the 99/4A.

Programmers Reference Guide to the 99/4A (Regina)  
 32 Basic Programs for the TI 99/4A  
 Cracking the 99/4A  
 Orphan Chronicles  
 TI99/4A in Bits and Bytes  
 Lost Time Adventure (book and software)  
 Financial Analysis on TI Computers  
 The Last Whole TI99/4A Book  
 Compute's TI Collection Vol 2  
 A Little Bit of LOGO magic  
 Itty Bitty Bytes of Space for the TI99/4A  
 TI99/4A Graphics and Sounds  
 Kids and the TI99/4A  
 Stimulating Simulations for the 99/4A  
 Bunyard Manual  
 TI99/4A Intern  
 Understanding Data Communications (by TI Learning Center)  
 Review of HOME COMPUTING JOURNAL issue #1  
 Entertainment Games in TI Basic and Extended Basic

**\*\*DONE\*\***

## EXTENDED BASIC TRIX - NEW TRIX

By: Andy Frueh, Lima HG

This article deals with a couple of unique tricks that I found very useful. They are worth looking over.

1) When you have a D/V 40, 132, or whatever text file that you need to edit with TI-Writer, you can change it to a D/V 80 file by using a sector editor. TI-Writer will load ONLY D/V 80 files. Do a "Search file" to find the header sector of the D/V file. Edit that sector in HEX mode. Go to byte >11. If the file is D/V 40, you should see a number 28 at that byte. To change it to an "80" type a number 50 over the 28. In ASCII mode, you would see a ( for a D/V 40 file, and a P for a D/V 80 file.

2) Remember that E is an accepted number in TI-Writer. For example, if you need to delete from line 740 to the end of the file, you can Delete, then use 750,E as your numbers.

3) It seems that there is a toll free number for finding almost all kinds of Lompuler stuff. It would appear to be a "Computer's Buyers Guide" on the phone. The number is 1-800-366-0676.

4) You can hook up the computer to a VCR using a standard 300 ohm to 75 ohm TV antenna adapter. These are found with almost all home video game systems, or at radio supply stores. It has a cable-TV male connector and two screw terminals. The male plug goes into the "CABLE IN" jack of the VCR. The screw terminals go to the modulator's "TO TV" wire. You can then hook the VCR to a stereo's "AUX IN" jack, using a standard Audio/visual cable. Plug the other end into the "AUDIO OUT" on the VCR. You can then hear improved sound and tape record the computer's audio output. Both audio and video on the VCR. Note that this isn't as good as using a monitor cable into the "AUDIO IN" and "VIDEO IN" of the VCR, but it works for those without monitors (or cables).

5) If a disk doesn't seem to initialize, don't give up. First, inspect the disk for cuts or grooves. Check the visible surface on the BACK of the disk, since the drive records data on the surface opposite of the label side. If nothing looks wrong, continue to re-initialize the disk. Make sure that you validate each sector. Chances are, some sectors will be bad. Choosing a validate feature marks each bad sector as used. After trying this for a while, the disk should operate.

6) Finally, for those without a monitor, here is another use for the adapter mentioned above. I have the following display set-up. One TI computer has 2 separate RF modulators. Each one is constantly hooked up to a TV. Only one of the DIN end plugs is connected at a time. I use a small black and white TV on the PE box (with adequate ventilation) whenever anyone needs to use the larger color TV (which is also connected to cable and a Nintendo). The problem is when I'd use the color TV, either with the computer, or without (i.e. I'd be using the B&W TV), I would get interference from the computer. Placing the antenna adapter between the color TV and its modulator clear up the interference.

**\*\*DONE\*\***